REMARKS

Entry of the foregoing and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

Claims 1-15, 18-24, 26 and 27 were pending. By the present response, claim 1 has been amended. Thus, upon entry of the present response, claims 1-15 and 18-24 and 26-27 remain pending and await further consideration on the merits.

Support for the foregoing amendments can be found, for example, in at least the following locations in the original disclosure: the original claims, the drawing figures, and the specification, paragraph [0014].

CLAIM REJECTIONS UNDER 35 U.S.C. §102

Claims 1, 5, 9, 12-13, 21 and 23-24 stand rejected under 35 U.S.C. §102(b) as being unpatentable over U.S. Patent No. 3,702,499,737 to Virsbreg (hereafter "*Virsbreg*") on the grounds set forth in paragraph 4 of the Official Action. To anticipate a claim, the reference must teach every element of the claim. See MPEP § 2131. Here, the rejection is traversed because the cited reference does not teach every element of the claim.

The present disclosure relates to a method for applying insulation onto a conductor bar of a rotating electrical machine. The disclosed method improves the lifetime performance of the insulated sections.

Generally, stator windings of rotating electrical machines are manufactured by methods that include bending and handling of the conductors, which may produce stress concentrations or damage to the insulation of the stator windings. In addition,

during operation the insulation of the stator winding conductors is exposed to a combined stress of (1) the dielectrical stress from the applied high voltage and (2) the thermal stress from the high temperature gradient. These combined stresses result both in a shearing stress of the bond between conductor and insulation and a risk of abrasion at the interface between insulation and slot wall of the stator. See, paragraph [0010].

To minimize or overcome the above described stresses and/or damage, the disclosed method produces an insulated stator winding with an improved life span. For example, an insulated stator winding is constructed where an electrically conductive conductor bar with an essentially rectangular cross-section is insulated by applying at least one electrically insulating shrink-on sleeve with an essentially rectangular cross-section to the periphery of the conductor bar and then shrunk to fit the electrically conductive conductor bar. As shown in one embodiment in Figure 3, the electrically conductive conductor bar is straight when the insulating shrink-on sleeve is applied, and then the electrically conductive conductor bar is bent to the desired shape.

The above noted features and others are included among the features in the claims. For example, independent claim 1, the only independent claim at issue here, recites among other features that at least one electrically insulating shrink-on sleeve with a rectangular cross-section is applied to a periphery of at least one linear electrically conductive conductor bar with a rectangular cross-section.

Virsbreg is quite different from the above features in the claim. For example, *Virsbreg* discloses a single wire 1, feed into a rotating frame 2. The wire 1 is then bent to conform to the circumference of the rotating frame 2 (as seen, for example, in

Fig. 1 of *Virsbreg*). After the wire 1 is bent, the wire is threaded through the shrinkage tube clamped between jaws 6 and 7 (see, col. 3, lines 33-34). In other embodiments, such as illustrated in Figs. 2 and 3, a coil is first formed and then the shrinkage tube is threaded on to the already formed coil (see, col. 3, line 58-col. 4, line 5).

Comparing the disclosure in *Virsbreg* to the claims of the present application at issue here, the *Virsbreg* patent does not disclose the application of a shrink-on sleeve onto at least one straight electrically conductive conductor bar with a rectangular cross-section. Rather, *Virsbreg* discloses application onto bent coils. In light of at least this difference, Applicants respectfully submit that an anticipatory rejection is improper since *Virsbreg* does not disclose the invention as claimed.

The remaining claims depend from claim 1 and distinguish over the cited reference for at least the same reason as noted above. Withdrawal of the rejection as to these claims is also respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 1, 5, 9, 12-14, 18, 21, 23-24 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Virsbreg* in view of the collective teachings of U.S. Patent No. 3,157,449 to Hennessey (hereafter "*Hennessey*") and U.S. Patent No. 5,661,842 to Faust (hereafter "*Faust*") on the grounds set forth in paragraph 6 of the Official Action.

As noted above in regard to the rejection under 35 U.S.C. §102, *Virsbreg* does not disclose all of the features of independent claim 1. Here, the proposed combination does not overcome this deficiency in the primary reference (*Virsbreg*)

and does not establish a *prima facie* case of obviousness because (1) there is no suggestion or motivation to modify the reference or to combine the teachings in the proposed combination, (2) there is no expectation of success for the proposed combination, even if proper, and (3) the references, even if combined, do not teach or suggest all of the claim limitations. See, M.P.E.P. §§2143-2143.03

First, it is respectfully asserted that one of ordinary skill in the art would not have been motivated to combine *Hennessey* and *Faust* with *Virsbreg*. Claim 1 concerns conductor bars for rotating electrical machines. As previously noted, such machines produce large mechanical and thermal stresses on insulation of the stator.

In contrast to the present claims, *Hennessey* and *Faust* are not related to applying insulation to conductor bars for rotating electrical machines. Both *Hennessey* and *Faust* relate to static devices and not to dynamic rotating machines, a connector in *Hennessey* and a submarine cable in *Faust*. It would not have been clear to one of ordinary skill in the art that materials and procedures used in the static devices of *Hennessey* and *Faust* would withstand the mechanical and thermal stresses in the claimed environment. Indeed, the requirements for each of the static devices are so far divergent from that of the present claims that one of ordinary skill would not have even considered or been motivated to make the combination as proposed by the Examiner. For at least this reason, the rejection is an improper obviousness rejection and should be withdrawn.

Second, there is no expectation of success for the proposed combination. As noted, *Hennessey* and *Faust* disclose static devices which have insulation appropriate for their environment. Because the mechanical and thermal stresses in the rotating electrical machine are very different from that found in the static devices

of *Hennessey* and *Faust*, one of ordinary skill in the art would not have expected success in transplanting the insulation and methods from these static devices to the rotating electrical machine of the present claims. For at least this additional reason, the rejection is an improper obviousness rejection and should be withdrawn.

Finally, even if combined the present claimed method does not result. As noted above, the claimed method applies insulation to a straight conductor bar. *Virsbreg* applies insulation only after the coil is bent. The disclosure in *Hennessey* and *Faust* does disclose, teach or suggest changing the application from a bent coil to a straight conductor such that one of ordinary skill would not have made such a change to overcome the deficiency in the *Virsbreg* reference. Therefore, at least this feature of the claim is not present in the proposed combination. For at least this further reason, the rejection is an improper obviousness rejection and should be withdrawn.

The remaining rejections concern claims dependent from claim 1 and are not addressed individual because the proposed combinations are limited to the above discussed references and additional references that are cited for their limited application against features of the dependent claims. Thus, these additional combinations do not remedy the above noted deficiencies in the combination of *Virsbreg* in view of the collective teachings of *Hennessey* and *Faust* that is applied against the independent claim. Accordingly, these additional rejections do not disclose, teach or suggest all of the features of the claim because the combination of *Virsbreg* in view of the collective teachings of *Hennessey* and *Faust* does not meet this requirement. Because a *prima facie* case has not been established,

reconsideration and withdrawal of the rejections at paragraph 7 to 12 are respectfully requested.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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